Volume 128 1982

FEBS

European Journal of Biochemistry

Editorial Board *Managing Editors:* Claude Liébecq (Liège), *Chairman,* Giorgio Bernardi (Paris), Lothar Jaenicke (Köln), Pierre Jollès (Paris), and Cees Veeger (Wageningen)

Editors: M. Avron (Rehovot), H. Eisenberg (Rehovot), F. Franěk (Praha), G. Gerisch (Martinsried), G. Gottschalk (Göttingen), M. C. Scrutton (London), A. Sentenac (Saclay), H. D. Söling (Göttingen), A. S. Spirin (Pushchino), M. Wikström (Helsinki), A. V. Xavier (Lisboa), W. Zillig (Martinsried)

Advisory Board

B. E. C. Banks (London)
E. K. F. Bautz (Heidelberg)
H. Beaufay (Bruxelles)
L. D. Bergelson (Moskva)
H. Bloemendal (Nijmegen)
E. M. Bradbury (Davis)
M. E. Buckingham (Paris)
E. Carafoli (Zürich)
M. J. Clemens (London)
P. Cohen (Dundee)
K. Decker (Freiburg i. Br.)
G. H. de Haas (Utrecht)
P. De Meyts (Bruxelles)
C. Gancedo (Madrid)
J.-M. Ghuysen (Liège)
D. H. Hayes (Paris)
E. Heilbronn (Sundbyberg)
A. Henschen-Edman (Martinsried)
H. Hilz (Hamburg)
B. Hirt (Epalinges)
E. Hofmann (Leipzig)
F. Hofmann (Heidelberg)
H. Jörnvall (Stockholm)
T. Jovin (Göttingen)
M. Ya. Karpeisky (Moskva)
G. L. E. Koch (Cambridge)
C. G. Kurland (Uppsala)
E. Lisowska (Wrocław)
R. Lontie (Leuven)
O. Lüderitz (Freiburg i. Br.)
G. Marbaix (Rhode-St-Genèse)
K. Mosbach (Lund)
K. Nierhaus (Berlin)
A. Paraf (Thiverval-Grignon)
B. Parthier (Halle)
T. A. J. Payens (Ede)
I. Pecht (Rehovot)
G. Pettersson (Lund)
R. J. Planta (Amsterdam)
A. Prunell (Paris)
P. J. Randle (Oxford)
J. Rétey (Karlsruhe)
J. Ricard (Marseille)
R. Rigler (Stockholm)
N. Sharon (Rehovot)
H. Sies (Düsseldorf)
J. Stenflo (Malmö)
F. S. Steven (Manchester)
H. Sund (Konstanz)
J. M. Tager (Amsterdam)
W. Tanner (Regensburg)
R. Thauer (Marburg)
J. O. Thomas (Cambridge)
K. F. Tipton (Dublin)
A. Trebst (Bochum)
D. R. Trentham (Philadelphia)
H. Tschesche (Bielefeld)
V. Ullrich (Homburg)
K. van Dam (Amsterdam)
D. Vázquez (Madrid)
J. F. G. Vliegenthart (Utrecht)
J. H. Weil (Strasbourg)
V. P. Whittaker (Göttingen)
M. Wilchek (Rehovot)
R. J. P. Williams (Oxford)
K. W. A. Wirtz (Utrecht)
B. Wittmann-Liebold (Berlin)
P. Yot (Paris)

Published by Springer-Verlag Berlin Heidelberg New York
on behalf of the Federation of European Biochemical Societies

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is vested in the Federation of European Biochemical Societies.
The use of general descriptive names, trade names, trade marks, etc., in this publication, even if the former are not specifically identified, is not to be interpreted that such names are exempt from the relevant protective laws and regulations and may accordingly be used freely by anyone.

Springer Verlag · Berlin · Heidelberg · New York

Printers: Wiesbadener Graphische Betriebe GmbH, Wiesbaden

Printed in Germany

Copyright © by the Federation of European Biochemical Societies 1982

Volume 128 1982

Table of Contents

No. 1 1–280 issued on November 1, 1982
No. 2–3 281–644 issued on November 15, 1982

Symbolism and Terminology in Enzyme Kinetics. Recommendations 1981
Nomenclature Committee of the International Union of Biochemistry (NC-IUB) 281–291

Corrections 643

Nucleic Acids, Protein Synthesis, and Molecular Genetics

Enzymatic Properties and Cooperative Effects in the Kinetics of Wheat-Germ RNA Polymerases. A Comparative Study of the Three Nuclear Enzyme Classes
D. Job, R. Durand, and M. Teissere 35–39

Removal of the Tightly Bound Zinc from *Escherichia coli* Trypsin-Modified Methionyl-tRNA Synthetase
J.-F. Mayaux, T. Kalogerakos, K. K. Brito, and S. Blanquet 41–46

70-S Ribosomes of *Escherichia coli* have an Additional Site for Deacylated tRNA Binding
R. A. Grajevskaja, Y. V. Ivanov, and E. M. Saminsky 47–52

Subclasses of Simian-Virus-40 Large Tumor Antigen. Partial Purification and DNA-Binding Properties of Two Subclasses of Tumor Antigen from Productively Infected Cells
A. Dorn, D. Brauer, B. Otto, E. Fanning, and R. Knippers 53–62

Isolation and Characterization of hnRNA-snRNA-Protein Complexes from Morris Hepatoma Cells
A. Prüsse, C. Louis, A. Alonso, and C. E. Sekeris 169–178

Regulation of Synthesis of Catalases and Iso-1-cytochrome *c* in *Saccharomyces cerevisiae* by Glucose, Oxygen and Heme
H. Hörtner, G. Ammerer, E. Hartter, B. Hamilton, J. Rytka, T. Bilinski, and H. Ruis 179–184

Estrogen-Receptor–DNA Interaction. Difference between Activation by Estrogen and Antiestrogen
E. Evans, P. P. Baskevitch, and H. Rochefort 185–191

Abundant Messenger RNA Sequences Common to Transplanted Mouse Tumours of Different Tissue Origins
G. Mercier, M. Guillier, and J. Harel 193–197

Purification of the mRNAs Encoding the Subunits of Larval Serum Proteins 1 and 2 of *Drosophila melanogaster*
J. D. Sato, D. J. Powell, and D. B. Roberts 199–207

The Participation of Poly(ADP-Ribosyl)ated Histone H1 in Oligonucleosomal Condensation
M. Wong, N. Malik, and M. Smulson 209–213

Size Fractionation of DNA Fragments Ranging from 20 to 30,000 Base Pairs by Liquid/Liquid Chromatography
W. Müller and G. Kütemeier 231–238

Mutation-Induced Instability of Antibiotic-Resistant Mammalian Ribosomes
P. J. Wejksnora and J. R. Warner 239–242

Reutilization of Preformed Pyrimidines for the Synthesis of DNA in Rat Liver and Kidney
J. Seifert 277–280

Characterization of the Secondary Structure Features of *Escherichia coli, Caldariella acidophila* and Mammalian Ribosomal RNA Species by Chemical Modification of Sterically Exposed Bases
P. Cammarano, P. Londei, R. Biagini, M. De Rosa, and A. Gambacorta 297–307

Synthesis of the Proteins of Complex III of the Mitochondrial Respiratory Chain in Heme-Deficient Cells
C.-I. P. Lin, E. G. Gollub, and D. S. Beattie 309–313

Isoleucyl-tRNA Synthetase from *Escherichia coli* MRE 600. Different Pathways of the Aminoacylation Reaction Depending on Presence of Pyrophosphatase, Order of Substrate Addition in the Pyrophosphate Exchange, and Substrate Specificity with Regard to ATP Analogs
W. Freist, H. Sternbach, and F. Cramer 315–329

Characterization of the Region on Protein L7/L12 Involved in Binding to Ribosomal Particles
E. N. Schop and J. A. Maassen 371–375

Crosslinking of *N*-Acetyl-phenylalanyl-[s^4U]tRNA^{Phe} to Protein S10 in the Ribosomal P Site
N. Riehl, P. Remy, J.-P. Ebel, and B. Ehresmann 427–433

NMN Adenylyltransferase: Its Association with Chromatin and with Poly(ADP-ribose) Polymerase
M. L. Uhr and M. Smulson 435–443

Transcription of Sea-Urchin Mesenchyme Blastula Histone Genes after Heat Shock
G. Spinelli, C. Casano, F. Gianguzza, M. Ciaccio, and F. Palla 509–513

Regulation of Rat Liver L-Type Pyruvate Kinase mRNA by Insulin and by Fructose
T. Noguchi, H. Inoue, and T. Tanaka 583–588

Increase of Fidelity of Polypeptide Synthesis by Spermidine in Eukaryotic Cell-Free Systems
K. Igarashi, S. Hashimoto, A. Miyake, K. Kashiwagi, and S. Hirose 597–604

Protein Chemistry and Structure

Human Progastricsin. Analysis of Intermediates during Activation into Gastricsin and Determination of the Amino Acid Sequence of the Propart
B. Foltmann and A. L. Jensen 63– 70

Amino-Acid Sequence of the β1 Isosubunit of Taipoxin, an Extremely Potent Presynaptic Neurotoxin from the Australian Snake Taipan (*Oxyuranus s. scutellatus*)
P. Lind 71– 75

Proline Isomerization in Unfolded Ribonuclease A. The Equilibrium between Fast-Folding and Slow-Folding Species is Independent of Temperature
F. X. Schmid 77– 80

^{1}H-NMR Studies on Nucleotide Binding to the Sarcoplasmic Reticulum Ca^{2+} ATPase. Determination of the Conformations of Bound Nucleotides by the Measurement of Proton-Proton Transferred Nuclear Overhauser Enhancements
G. M. Clore, A. M. Gronenborn, C. Mitchinson, and N. M. Green 113–117

Affinity Labelling of Enzymes with Triazine Dyes. Isolation of a Peptide in the Catalytic Domain of Horse-Liver Alcohol Dehydrogenase Using Procion Blue MX-R as a Structural Probe
D. A. P. Small, C. R. Lowe, T. Atkinson, and C. J. Bruton 119–123

Modulation of Some Parameters of Assembly of Microtubules *in vitro* by Tyrosinolation of Tubulin
N. Kumar and M. Flavin 215–222

Synthesis of a New Disulfide Affinity Adsorbent for Purification of Human Uterine Progesterone Receptor
B. Manz, H.-J. Grill, I. Köhler, A. Heubner, and K. Pollow 249–255

Porcine Pancreatic Lipase. The Disulfide Bridges and the Sulfhydryl Groups
F. Benkouka, A. A. Guidoni, J. D. De Caro, J. J. Bonicel, P. A. Desnuelle, and M. Rovery 331–341

An Improved Purification Method and a Physical Characterization of Phage T7 DNA Polymerase
H. Randahl, I. Slabý, and A. Holmgren 445–449

Primary Gene Products of Bovine β-Crystallin and Reassociation Behavior of Its Aggregates
G. A. M. Berbers, O. C. Boerman, H. Bloemendal, and W. W. De Jong 495–502

Classification of Rat Lens Crystallins and Identification of Proteins Encoded by Rat Lens mRNA
F. Ramaekers, H. Dodemont, P. Vorstenbosch, and H. Bloemendal 503–508

Secondary Structure of the *lac* Repressor Headpiece. Possibilities and Limitations of a Joint Infrared and Circular Dichroism Study
M. Schnarr and J.-C. Maurizot 515–520

Oxidation of Carbonyl Hemoglobins by Ferricyanide. Hemoglobins A, Osler (β145 Tyr→Asp) and Zurich (β63 His→Arg)
A. Lanir, W. S. Caughey, and S. Charache 521–525

Structural Prediction of Membrane-Bound Proteins
P. Argos, J. K. M. Rao, and P. A. Hargrave 565–575

Purification of Twelve Cyanogen Bromide Fragments from Bovine Plasma Fibronectin and the Amino Acid Sequence of Eight of Them. Overlap Evidence Aligning Two Plasmic Fragments, Internal Homology in Gelatin-Binding Region and Phosphorylation Site near C Terminus
K. Skorstengaard, H. C. Thøgersen, K. Vibe-Pedersen, T. E. Petersen, and S. Magnusson 605–623

Enzymology

Induction of Lipogenic Enzymes in Primary Cultures of Rat Hepatocytes. Relationship between Lipogenesis and Carbohydrate Metabolism
J. T. Spence and H. C. Pitot 15– 20

A Study on *p*-Hydroxybenzoate Hydroxylase from *Pseudomonas fluorescens*. A Convenient Method of Preparation and Some Properties of the Apoenzyme
F. Müller and W. J. H. van Berkel 21– 27

The Steroid-9α-Hydroxylation System from *Nocardia* Species
A. Strijewski 125–135

Thermoacidophilic Archaebacteria Contain Bacterial-Type Ferredoxins Acting as Electron Acceptors of 2-Oxoacid:Ferredoxin Oxidoreductases
L. Kerscher, S. Nowitzki, and D. Oesterhelt 223–230

Microsomal Glutathione *S*-Transferase. Purification, Initial Characterization and Demonstration that It is not Identical to the Cytosolic Glutathione *S*-Transferases A, B and C
R. Morgenstern, C. Guthenberg, and J. W. DePierre 243–248

Chemical Modification of *Aeromonas* Aminopeptidase. Evidence for the Involvement of Tyrosyl and Carboxyl Groups in the Activity of the Enzyme
K. K. Mäkinen, P.-L. Mäkinen, S. H. Wilkes, M. E. Bayliss, and J. M. Prescott 257–265

Amino Acid Sequence around the Active Site of Two Class I Fructose-1,6-Bisphosphate Aldolases from Staphylococci
S. Fischer and A. Tsugita 343–348

Purification and Properties of Protein Methylase II from Wheat Germ
L. Trivedi, A. Gupta, W. Ki Paik, and S. Kim 349–354

Kinetic Parameters of a β-D-Galactoside α2→6 Sialyltransferase from Embryonic Chicken Liver
B. Bendiak and G. M. W. Cook 355–362

Reconstitution of Liver NADH: Cytochrome b_5 Oxidoreductase and of *Desulfovibrio vulgaris* Flavodoxin with 1-Carba-1-deazaflavin
D. Pompon, B. Guiard, and F. Lederer 377–382

Diffusion-Controlled Reactions of Enzymes. A Comparison between Chou's Model and Alberty-Hammes-Eigen's Model
G.-Q. Zhou and W.-Z. Zhong 383–387

Kinetic Anticooperativity in Pre-Steady-State Formation of Tryptophanyl Adenylate by Tryptophanyl-tRNA Synthetase from Beef Pancreas. A Consequence of the Tryptophan Anticooperative Binding
J.-P. Mazat, M. Merle, P.-V. Graves, G. Merault, J.-C. Gandar, and B. Labouesse 389–398

Carbohydrates, Lipids and Other Natural Products

Somatic Antigens of *Pseudomonas aeruginosa*. The Structure of O-Specific Polysaccharide Chains of *P. aeruginosa* O:3a,b and O:3a,d Lipopolysaccharides
Y. A. Knirel, E. V. Vinogradov, A. S. Shashkov, B. A. Dmitriev, N. K. Kochetkov, E. S. Stanislavsky, and G. M. Mashilova 81– 90

Evidence for Different Requirements in Physical State for the Interaction of Lipopolysaccharides with the Classical and Alternative Pathways of Complement
M. E. Wilson and D. C. Morrison 137–141

Lipopolysaccharides from *Pseudomonas maltophilia*. Structural Studies of the Side-Chain, Core, and Lipid-A Regions of the Lipopolysaccharide from Strain NCTC 10257
D. J. Neal and S. G. Wilkinson 143–149

Structure of the Wall Polysaccharide Isolated from a Group of Corynebacteria
C. Abou-Zeid, A. Voiland, G. Michel, and C. Cocito 363–370

Physical Biochemistry

A Coupled Diffusion and Barrier Model for the Recombination Kinetics of Myoglobin with Carbon Monoxide
M. C. Marden 399–404

Two-Step Interaction of α-Chymotrypsin with a Fluorescent Inhibitor. A Dynamic Study by the Temperature-Jump Method
F. J. L. Rodier and G. Ilgenfritz 451–454

Dissociation of Apolipoprotein AI from Apoprotein-Lipid Complexes and from High-Density Lipoproteins. A Fluorescence Study
M. Rosseneu, P. Van Tornout, M.-J. Lievens, G. Schmitz, and G. Assmann 455–460

Complete Assignment of the ^{1}H NMR Spectrum of the Aromatic Residues of Lysozyme
C. Redfield, F. M. Poulsen, and C. M. Dobson 527–531

The Pressure-Induced, Reversible Inactivation of Mouse Brain Enolases
J. Kornblatt, J. Kornblatt, and G. Hui Bon Hoa 577–581

Membranes and Bioenergetics

Studies on the Mechanism of Action of Triphenyltin on Proton Conduction by the H^+-ATPase of Mitochondria
S. Papa, F. Guerrieri, M. T. de Gomez Puyou, J. Barranco, and A. Gomez Puyou 1– 7

Effect of Thiol Reagents on the Proton Conductivity of the H^+-ATPase of Mitochondria
F. Guerrieri and S. Papa 9– 13

Reconstitution of the Isolated Phosphate-Transport System of Pig-Heart Mitochondria
P. Mende, H. V. J. Kolbe, B. Kadenbach, I. Stipani, and F. Palmieri 91– 95

The Protein Component(s) of the Isolated Phosphate-Transport System of Mitochondria
H. V. J. Kolbe, P. Mende, and B. Kadenbach 97–105

Purification and Characterization of NADH Dehydrogenase from *Bacillus subtilis*
J. Bergsma, M. B. M. van Dongen, and W. N. Konings 151–157

Induction of 2 H^+/Me^{2+} Exchange in Rat-Liver Mitochondria
L. M. Maglova, E. L. Holmuhamedov, V. P. Zinchenko, and Y. V. Evtodienko 159–161

Preparation of Neurotoxic ^{3}H-β-Bungarotoxin: Demonstration of Saturable Binding to Brain Synapses and Its Inhibition by Toxin I
I. B. Othman, J. W. Spokes, and J. O. Dolly 267–276

Binding and Exchange of Nucleotides on the Chloroplast Coupling Factor CF_1. The Role of Magnesium
G. Girault, J. M. Galmiche, C. Lemaire, and O. Stulzaft 405–411

A Genetic Approach to Reveal the Action of the Opiate Receptor in Selected Neuroblastoma-Glioma Cells. Interaction with α-Adrenoceptors, Calmodulin and Ca^{2+}-ATPase
R. Simantov, H. Nadler, and R. Levy 461–466

Transient Kinetics of the One-Electron Transfer Reaction between Reduced Flavocytochrome b_2 and Oxidized Cytochrome *c*. Evidence for the Existence of a Protein Complex in the Reaction
C. Capeillere-Blandin 533–542

Protein Synthesis by Isolated *Acetabularia* Chloroplasts. Synthesis of the Two Minor Chlorophyll *a* Complexes *in vitro*
B. R. Green 543–546

Kinetic and Thermodynamic Properties of the Ternary Complex between F-actin, Myosin Subfragment 1 and Adenosine 5′-[β,γ-imido]triphosphate
M. Konrad and R. S. Goody 547–555

Cellular Biochemistry and Metabolism

Biosynthesis of Dermatan Sulphate in Cultured Fibroblasts. Characterization of Newly Synthesized Glycans from Cells and Microsomes
I. Sjöberg and A. Malmström 29– 34

Dual Role of Hexose-1-phosphate Uridylyltransferase in Galactosamine Metabolism
G. Weckbecker and D. O. R. Keppler 163–168

α-Adrenergic Stimulation of Glycolysis and Na^+,K^+-Transport in Perfused Rat Liver
J. Becker and A. Jakob 293–296

Regulation of Ketogenesis. Mitochondrial Acetyl-CoA Acetyltransferase from Rat Liver: Initial-Rate Kinetics in the Presence of the Product CoASH Reveal Intermediary Plateau Regions
W. Huth and R. Menke 413–419

The Seminal Vesicle of the Bull: A New and Very Rich Source of Nerve Growth Factor
H.-D. Hofmann and K. Unsicker 421–426

Role of Gangliosides in Reception of Influenza Virus
L. D. Bergelson, A. G. Bukrinskaya, N. V. Prokazova, G. I. Shaposhnikova, S. L. Kocharov, V. P. Shevchenko, G. V. Kornilaeva, and E. V. Fomina-Ageeva 467–474

Detection and Localization of a Class of Proteins Immunologically Related to a 100-kDa Nucleolar Protein
B. Bugler, M. Caizergues-Ferrer, G. Bouche, H. Bourbon, and F. Amalric 475–480

Desensitisation of β-Adrenergic Responsiveness *in vivo*. Decreased Coupling between Receptors and Adenylate Cyclase in Isolated Brown-Fat Cells
J. Svartengren, P. Svoboda, and B. Cannon 481–488

Wild-Type and Mutant Forms of Homoisocitric Dehydrogenase in the Yeast *Saccharomycopsis lipolytica*
C. M. Gaillardin, A.-M. Ribet, and H. Heslot 489–494

Properties and Subcellular Localization of Acid Phosphatase Activity in Cultured Arterial Smooth Muscle Cells
D. S. Leake, B. Heald, and T. J. Peters 557–563

Regulation of the Phosphatidylethanolamine Methylation Pathway in *Saccharomyces cerevisiae*
S. Yamashita, A. Oshima, J.-i. Nikawa, and K. Hosaka 589–595

Stimulation by 6-Azauridine of Carbamoyl Phosphate Synthesis for Pyrimidine Biosynthesis in Mouse Spleen Slices
M. Tatibana, K. Kita, and T. Asai 625–629

Enhancement of Intracellular 5-Phosphoribosyl 1-Pyrophosphate Levels as a Major Factor in the 6-Azauridine-Induced Stimulation of Carbamoyl Phosphate Synthesis in Mouse Spleen Slices
M. Tatibana, K. Kita, T. Asai, and F. Ikeda 631–636

Preferential Transcription and Nuclear Transport of Globin Gene Sequences, as Control Steps Leading to Final Differentiation of Murine Erythroleukemic Cells
Y. Shaul, I. Ginzburg, and H. Aviv 637–642

Developmental Biochemistry and Immunology

Analysis of the Glycoproteins of Murine Tumour Cell Lines with ^{125}I-Concanavalin A in Two-Dimensional Electrophoresis Gels
G. L. E. Koch and M. J. Smith 107–112

Indexed in Current Contents